

4. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence in Figures 1A and 1B (SEQ ID NO:1) encoding the mature

TNF-gamma polypeptide having the amino acid sequence from about 1 to about 147 in SEQ ID NO:2.

5. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues n^1 -147 of SEQ ID NO:2, where n^1 is an integer in the range of -27 to 35;

(b) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues -27- m^1 of SEQ ID NO:2, where m^1 is an integer in the range of 146 to 147;

(c) a nucleotide sequence encoding a polypeptide having the amino acid sequence consisting of residues n^1 - m^1 of SEQ ID NO:2, where n and m are integers as defined respectively in (a) and (b) above; and

(d) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete TNF-gamma amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 75927 wherein said portion excludes from 1 to about 62 amino acids from the amino terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 75927;

(e) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete TNF-gamma amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 75927 wherein said portion excludes 1 amino acid from the carboxy terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 75927; and

(f) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete TNF-gamma amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 75927 wherein said portion include a combination of any of the amino terminal and carboxy terminal deletions in (d) and (e), above.

6. The nucleic acid molecule of claim 1 wherein said polynucleotide has the complete nucleotide sequence of the cDNA clone contained in ATCC Deposit No. 75927.

7. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the TNF-gamma polypeptide having the complete

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amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in ATCC Deposit No. 75927.

8. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the mature TNF-gamma polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 75927.

9. An isolated nucleic acid molecule comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a), (b), (c), (d), (e), (f) or (g) of claim 1 wherein said polynucleotide which hybridizes does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues. AV

10. An isolated nucleic acid molecule comprising a polynucleotide which encodes the amino acid sequence of an epitope-bearing portion of a TNF-gamma polypeptide having an amino acid sequence in (a), (b), (c), (d), (e) or (f) of claim 1.

11. The isolated nucleic acid molecule of claim 10, which encodes an epitope-bearing portion of a TNF-gamma polypeptide wherein the amino acid sequence of said portion is selected from the group of sequences in SEQ ID NO:2 consisting of: about Thr-24 to about Asn-32; about Ile-37 to about Ile-45; about Met-54 to about Arg-62; about Gln-63 to about Asp-71; about Glu-57 to about Gly-65; about Val-80 to about Thr-88; about Leu-116 to about Val-124; and about Asp-133 to about Phe-141.

12. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.

13. A recombinant vector produced by the method of claim 12.

14. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 13 into a host cell.

15. A recombinant host cell produced by the method of claim 14.

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16. A recombinant method for producing a TNF-gamma polypeptide, comprising culturing the recombinant host cell of claim 15 under conditions such that said polypeptide is expressed and recovering said polypeptide.

17. An isolated TNF-gamma polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the amino acid sequence of the full-length TNF-gamma polypeptide having the complete amino acid sequence shown in SEQ ID NO:2 (i.e., positions -27 to 147 of SEQ ID NO:2);

(b) the amino acid sequence of the full-length TNF-gamma polypeptide having the complete amino acid sequence shown in SEQ ID NO:2 excepting the N-terminal methionine (i.e., positions -26 to 147 of SEQ ID NO:2);

(c) the amino acid sequence of the predicted mature TNF-gamma polypeptide having the amino acid sequence at positions 1-147 in SEQ ID NO:2;

(d) the complete amino acid sequence encoded by the cDNA clone contained in the ATCC Deposit No. 75927;

(e) the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in the ATCC Deposit No. 75927; and

(f) the complete amino acid sequence of the predicted mature TNF-gamma polypeptide encoded by the cDNA clone contained in the ATCC Deposit No. 75927.

18. An isolated antibody that binds specifically to a TNF-gamma polypeptide of claim 17.

19. A method for the treatment of a tumor in a patient comprising: administering to the patient the isolated nucleic acid molecule of claim 1.

20. A method for the treatment of a tumor in a patient comprising: administering to the patient a therapeutically effective amount of the TNF-gamma polypeptide of claim 17.

21. A method for the treatment of Rheumatoid Arthritis in a patient comprising: administering to the patient a therapeutically effective amount of the TNF-gamma polypeptide of claim 17.

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22. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence in SEQ ID NO:20 (i.e., positions 1 to 251 of SEQ ID NO:20);

(b) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence in SEQ ID NO:20 excepting the N-terminal methionine (i.e., positions 2 to 251 of SEQ ID NO:20);

(c) a nucleotide sequence encoding the extracellular domain of TNF-gamma-beta polypeptide having the amino acid sequence in SEQ ID NO:20 shown as positions 62 to 251 of SEQ ID NO:20;

(d) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055;

(e) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in ATCC Deposit No. 203055;

(f) a nucleotide sequence encoding the extracellular domain of the TNF-gamma-beta polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055; and

(g) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d), (e) or (f), above.

23. The nucleic acid molecule of claim 22 wherein said polynucleotide has the complete nucleotide sequence in Figures 20A and 20B (SEQ ID NO:19).

24. The nucleic acid molecule of claim 22 wherein said polynucleotide has the nucleotide sequence in Figures 20A and 20B (SEQ ID NO:19) encoding the TNF-gamma polypeptide having the amino acid sequence in positions 1 to 251 of SEQ ID NO:20.

25. The nucleic acid molecule of claim 22 wherein said polynucleotide has the nucleotide sequence in Figures 20A and 20B (SEQ ID NO:19) encoding the extracellular domain of the TNF-gamma polypeptide having the amino acid sequence from about 62 to about 251 in SEQ ID NO:20.

26. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues n^4 -251 of SEQ ID NO:20, where n^4 is an integer in the range of 2 to 246;

(b) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues 1- m^4 of SEQ ID NO:20, where m^4 is an integer in the range of 6 to 250;

(c) a nucleotide sequence encoding a polypeptide having the amino acid sequence consisting of residues n^4 - m^4 of SEQ ID NO:20, where n^4 and m^4 are integers as defined respectively in (a) and (b) above; and

(d) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete TNF-gamma-beta amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055 wherein said portion excludes from 1 to about 246 amino acids from the amino terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055;

(e) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete TNF-gamma-beta amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055 wherein said portion excludes 1 amino acid from the carboxy terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055; and

(f) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete TNF-gamma-beta amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055 wherein said portion include a combination of any of the amino terminal and carboxy terminal deletions in (d) and (e), above.

27. The nucleic acid molecule of claim 22 wherein said polynucleotide has the complete nucleotide sequence of the cDNA clone contained in ATCC Deposit No. 203055.

28. The nucleic acid molecule of claim 22 wherein said polynucleotide has the nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in ATCC Deposit No. 203055

29. The nucleic acid molecule of claim 22 wherein said polynucleotide has the nucleotide sequence encoding the extracellular domain of the TNF-gamma-beta polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 203055.

30. An isolated nucleic acid molecule comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a), (b), (c), (d), (e), (f) or (g) of claim 22 wherein said polynucleotide which hybridizes does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues.

31. An isolated nucleic acid molecule comprising a polynucleotide which encodes the amino acid sequence of an epitope-bearing portion of a TNF-gamma-beta polypeptide having an amino acid sequence in (a), (b), (c), (d), (e) or (f) of claim 22.

32. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 22 into a vector.

33. A recombinant vector produced by the method of claim 32.

34. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 33 into a host cell.

35. A recombinant host cell produced by the method of claim 34.

36. A recombinant method for producing a TNF-gamma-beta polypeptide, comprising culturing the recombinant host cell of claim 35 under conditions such that said polypeptide is expressed and recovering said polypeptide.

37. An isolated TNF-gamma-beta polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the amino acid sequence of the full-length TNF-gamma-beta polypeptide having the complete amino acid sequence shown in SEQ ID NO:20 (i.e., positions 1 to 251 of SEQ ID NO:20);

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(c) the amino acid sequence of the predicted extracellular domain of the TNF-gamma-beta polypeptide having the amino acid sequence at positions 62-251 in SEQ ID NO:20;

(e) the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in the ATCC Deposit No. 203055; and

(f) the complete amino acid sequence of the predicted extracellular domain of the TNF-gamma-beta polypeptide encoded by the cDNA clone contained in the ATCC Deposit No. 203055.

38. An isolated antibody that binds specifically to a TNF-gamma polypeptide of claim 37.

39. A method for the treatment of a tumor in a patient comprising:
administering to the patient the isolated nucleic acid molecule of claim 22.

40. A method for the treatment of a tumor in a patient comprising:
administering to the patient a therapeutically effective amount of the TNF-gamma
polypeptide of claim 37.

41. A method for the treatment of Rheumatoid Arthritis in a patient comprising: administering to the patient a therapeutically effective amount of the TNF-gamma polypeptide of claim 37.

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